

CLAIMS

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1. A biodegradable plant shell comprising a peripheral wall having a hollow interior in which a plant is inserted, the wall having a substantial thickness and being formed of biodegradable constituents including a particulate organic base material and a water responsive glue, the shell being molded with sufficient porosity to permit root and water penetration into the walls of the shell, the glue being such that it causes the shell to retain its shape for storage and handling but permits the shell to disintegrate rapidly in the presence of water so as to facilitate root penetration through the wall and facilitate plant use of the water and nutrients retained in the shell.

2. A plant shell as in claim 1 wherein the major portion of the shell comprises the particulate organic base material in combination with organic ingredients that enhance water retention capabilities of the shell and time release nutrients in effective amounts to support initial plant development after a plant has been planted in the shell.

3. A plant shell as in claim 2 wherein the shell ingredients are compressed together sufficiently that the shell holds its shape when dry but is sufficiently porous that the shell permits root and water permeation therethrough but has substantial water retention capabilities.

4. A plant shell as in claim 3 wherein the shell comprises by volume at least about 50% of a particulate base material including one or a combination of southern pine bark and rice hulls.

5. A plant shell as in claim 3 wherein the shell includes effective quantities of peat moss, manure and top soil.

6. A plant shell as in claim 5 wherein the shell includes a time release fertilizer.

7. A plant shell as in claim 1 wherein the shell has a standard size outer shape such that the shell fits in standard size temporary plastic plant pots of the type that are used by nurseries.

8. A plant shell as in claim 1 wherein the shell has a standard size interior recess that is shaped such that plant contents developed in certain standard size temporary plastic pots will fit closely into the recess in the shell.

9. A plant shell as in claim 8 wherein the plant shell contains sufficient nutrients and water retention characteristics that the shell provides a desirable nutrition and water retention environment while a new plant is becoming established in a new environment.

10. A biodegradable plant shell according to claim 1 wherein the glue comprises guar gum, corn starch or a combination thereof.

11. A biodegradable plant shell according to claim 1 wherein the shell components are compressed in a mold at a pressure such that the shell walls are stable while dry, but the shell walls are sufficiently porous to permit water and root permeation into the walls of the shell, such that the shell structure breaks down substantially within a month in the presence of moisture.

12. A biodegradable plant shell according to claim 1 wherein the shell is integrally molded in the presence of the glue under a pressure that is low enough that the shell retains sufficient porosity that water will permeate the shell when applied to a plant that is planted in the shell, the shell being formed from components and compressed at a pressure that is such that the shell retains at least about twenty percent (20%) of the water applied to it.

13. A biodegradable plant shell according to claim 15 wherein the shell has a water retention capability of 30-40%.

14. A biodegradable plant shell comprising a peripheral wall having a hollow interior in which a plant is inserted, the wall having a substantial thickness and being formed of biodegradable constituents including a particulate organic base material along with natural or synthetic nutrients dispersed therein, the base material and nutrients and thickness of the wall of the shell being sufficient to provide nutrition for the plant while the plant roots are becoming established, the constituents of the shell being sized, admixed and molded such that the shell retains a substantial amount of water yet is sufficiently porous to readily permit water and root penetration through the walls of the shell, the shell constituents being held together by a tackifying agent or glue admixed with the constituents, the tackifying agent or glue serving effectively as a water based glue that causes the shell to retain its shape for storage and handling but permitting the shell to disintegrate rapidly in the presence of water so as to facilitate root penetration through the wall and facilitate plant use of the water and nutrients retained in the shell.

15. A plant shell as in claim 14 wherein the major portion of the shell comprises the particulate organic base material in combination with organic ingredients that cause the shell to have sufficient water retention capabilities and sufficient time release nutrients to support initial plant development after a new plant has been planted in the ground when the shell is used as a liner for the plant when the plant is planted in the ground.

16. A biodegradable plant shell comprising a mixture of components including a base material comprising one or a combination of shredded pine bark and rice hulls, in combination with one or more elements selected from the group consisting of peat moss, manure, top soil, and time-release nutrients, held together by a water soluble tackifier or glue, with the components being mixed and compressed in the shape of a plant pot having relatively thick walls, the walls being compressed sufficiently that the shell retains its shape when dry, the walls being sufficiently porous to permit root and water permeation during plant development while still having substantial water retention capabilities, the walls being subject to rapid deterioration in the presence of moisture.

17. A biodegradable plant shell according to claim 10 wherein the components are present in the following percentages by volume:

southern pine bark and/or rice hulls: 50 to 100%
peat moss: 0 to 30%
manure: 0 to 30%
top soil: 0 to 30%

18. A biodegradable plant shell according to claim 10 wherein the components are present in approximately the following approximate percentages by volume:

southern pine bark: 70%
peat moss: 10%
manure: 10%
top soil: 10%